

(c) inserting the produced specific information between the packets for the divided stream and recording the packets and the specific information sequentially in the disk recording medium.

5 2. A method set forth in claim 1, wherein said step (c) inserts, if there is time interval in which audio and video data packets will not be delivered to a presentation apparatus, the specific information for the time interval.

10 3. A method set forth in claim 2, wherein said step (c) inserts the specific information for the time interval in which the program specific information is likely to be delivered to the presentation apparatus.

15 4. A method set forth in claim 2, wherein said step (c) inserts the specific information for the time interval in which the program specific information should be delivered to the presentation apparatus.

20 5. A method set forth in claim 4, wherein the specific information is a transport packet containing information regarding the time to deliver the program specific information.

6. A method for providing presentation managing information of digital data stream, comprising the steps of:

25 (a) reproducing data stream recorded in a disk recording medium;

 (b) extracting navigation information from the reproduced data stream;

 (c) producing a program managing information packet based on the extracted navigation information; and

30 (d) deciding when to send the produced program managing information packet and transmitting the presentation managing information packet at the decided time.

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7. A method set forth in claim 6, wherein said step
(d) detects a time interval in which audio and video data
packets of the reproduced data stream are not being
delivered to a presentation apparatus, and transmits the
5 produced presentation managing information at the detected
time interval.

8. A method set forth in claim 6, wherein said step
(d) detects specific information indicating that the
presentation managing information can be delivered to a
10 presentation apparatus, and transmits the presentation
managing information at the time interval in which the
specific information is detected.

9. A method set forth in claim 8, wherein the
specific information is a transport packet, whose packet ID
15 is distinguished from those of video and audio data packets,
containing null data.

10. A method set forth in claim 6, wherein said step
(d) detects specific information containing time
information indicating when the presentation managing
20 information should be delivered to a presentation apparatus,
and transmits the presentation managing information on time
indicated in the time information.

11. A method for providing presentation managing
information of digital data stream, comprising the steps
25 of :

(a) reproducing data stream recorded in a disk
recording medium wherein the data stream contains video and
audio data transport packets;

(b) extracting navigation information from the
30 reproduced data stream;

(c) producing a program managing information packet
based on the extracted navigation information;

(d) reconstructing the reproduced video and audio

data packets while inserting the produced program managing information packet into the data packets; and

(e) transmitting the reconstructed packets sequentially.

5 12. A method set forth in claim 11, wherein said step
 (d) comprises the steps of:

(d1) converting the reproduced data stream into packetized elementary stream; and

(d2) inserting the produced presentation managing
10 information while reconstructing the converted packetized
elementary stream into transport packets

13. A method set forth in claim 12, wherein said step
(d2) writes new transport time information, which is
different from original time information written in the
15 reproduced data packets, in each reconstructed transport
packet.

14. A method set forth in claim 11, wherein said step (d) inserts the program managing information periodically into the data packets.

20 15. A recording device, comprising the recorded data
of:

digital data stream consisting of predetermined-sized packets divided in the basis of presentation time of each packet; and

25 specific information indicating when to send
presentation managing information to be used for control
the presentation of the packets, wherein the specific
information has been inserted intermittently into the
digital data stream.

16. A device set forth in claim 15, wherein the specific information has been inserted for a time interval in which audio and video data packets will not be delivered to a presentation apparatus.

